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PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/662,942
	Filing Date	Sep 15, 2003
	First Named Inventor	Das
	Group Art Unit	2122
	Examiner Name	
Total Number of Pages in This Submission	Attorney Docket Number	MS1-1734US

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to Group
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s) Sheets	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment / Reply	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
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<input type="checkbox"/> Response to Missing Parts/Incomplete Application	Remarks	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Marcia A. Tunheim
Signature	<i>Marcia A. Tunheim</i>
Date	3/29/04

CERTIFICATE OF MAILING		
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this date: 3/30/04		
Typed or printed name	Wendy A. Saxby	
Signature	<i>Wendy A. Saxby</i>	Date 3/30/04

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APR 02 2004

PTO/SB/17 (10-03)

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 0

Complete if Known

Application Number	10/662,942
Filing Date	Sep 15, 2003
First Named Inventor	Das
Examiner Name	
Art Unit	2122
Attorney Docket No.	MS1-1734US

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:

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Deposit Account Name Lee & Hayes, PLLC

The Director is authorized to: (check all that apply)

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1)			(\$) 0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims	Fee from below	Fee Paid
Total Claims	-20** =	X	
Independent Claims	-3** =	X	
Multiple Dependent			

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 0

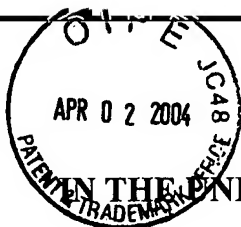
SUBMITTED BY

Name (Print/Type)	Marcia A. Tunheim	Registration No. (Attorney/Agent)	42,189	Telephone	(206) 315-4001
Signature	<i>Marcia A. Tunheim</i>	Date	3/27/04		

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. 10/662,942
Filing Date Sep 15, 2003
Inventorship Das
Applicant Microsoft Corporation
Group Art Unit 2122
Attorney's Docket No. MS1-1734US
Title: System and Method for Performing Path-Sensitive Value Flow Analysis On
A Program

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97(b)

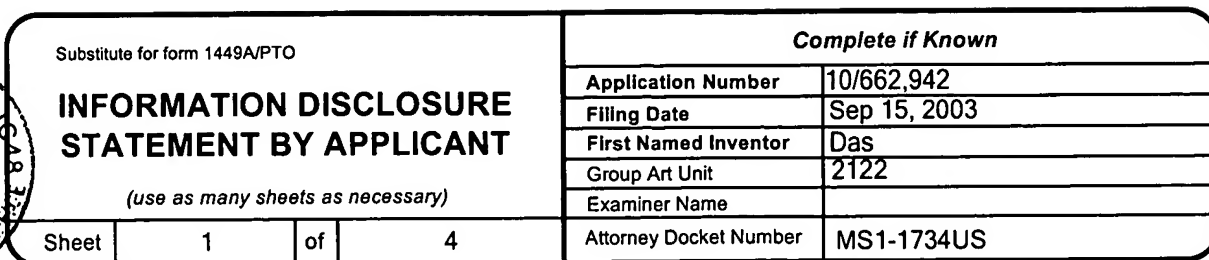
The citations listed, copies attached, may be material to the examination of the subject application and are therefore submitted in compliance with the duty of disclosure defined in 37 CFR §1.56. The Examiner is requested to make these citations of official record in this application.

Respectfully Submitted,

Date: 3/29/04

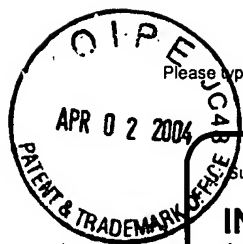
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Marcia A. Tunheim
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Substitute for form 1449B/PTO				Complete if Known	
				Application Number	10/662,942
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Filing Date	Sep 15, 2003
				First Named Inventor	Das
				Group Art Unit	2122
				Examiner Name	
Sheet	2	of	4	Attorney Docket Number	MS1-1734US

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Aiken, et al., "Checking and Inferring Local Non-Aliasing", Proceedings of the ACM SIGPLAN, Conference on Programming Language Design and Implementation, pp. 129-140, 2003.	
		Bodik, et al., "Path-Sensitive Value-Flow Analysis", Conference Record of the Twenty-Fifth ACM Symposium on Principles of Programming Languages, pp. 237-251, 1998.	
		Bozga, et al., "Storeless Semantics and Alias Logic", Proceedings of the 2003 ACM SIGPLAN Workshop on Partial Evaluation and Semantics-Based Program Manipulation, pp. 55-65, June 2003.	
		Bush, et al., "A Static Analyzer for Finding Dynamic Programming Errors", Software- Practice and Experience, Vol. 30, No. 7, pp. 775-802, 2000.	
		Ball et al., "Automatically Validating Temporal Safety Properties of Interfaces", Proceedings of SPIN '01, 8th Annual SPIN Workshop on Model Checking of Software, May 2001.	
		Chatterjee, et al., "Relevant Context Interface", Conference Record of the Twenty-Sixth ACM Symposium on Principles of Programming Languages, pp. 133-146, 1999.	
		Manuvir Das, "Unification-Based Pointer Analysis with Directional Assignments", Proceedings of the ACM SIGPLAN 2000, Conference in Programming Languages Design and Implementation, 2000.	
		Deline, et al., "Enforcing High-Level Protocols in Low-Level Software", Proceedings of the ACM SIGPLAN 2001 Conference on Programming Language Design and Implementation, 2001.	
		Das, et al., "Estimating the Impact of Scalable Pointer Analysis on Optimization", 8th International Symposium on Static Analysis, 2001.	
		Das, et al., "Esp: Path-Sensitive Program Verification in Polynomial Time", Proceedings of the ACM SIGPLAN 2002 Conference on Programming Language Design and Implementation, 2002.	
		Flanagan, et al., "Extended Static Checking for Java", Proceedings of the ACM SIGPLAN 2002 Conference on Programming Language Design and Implementation, 2002.	

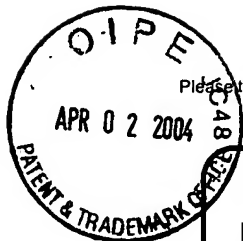
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¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO		Complete if Known	
		Application Number	10/662,942
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Filing Date	Sep 15, 2003
		First Named Inventor	Das
		Group Art Unit	2122
		Examiner Name	
(use as many sheets as necessary)		Attorney Docket Number	MS1-1734US
Sheet	3	of	4

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Foster, et al., "Flow-Sensitive Type Qualifiers", Proceedings of the ACM SIGPLAN 2002 Conference on Programming Language Design and Implementation, 2002.	
		Hallem, et al., "A System and Language for Building System-Specific, Static Analysis", Proceedings of the ACM SIGPLAN 2002 Conference on Programming Language Design and Implementation, 2002.	
		Michael Hind, "Pointer Analysis: Haven't We Solved This Problem Yet?", Proceedings of the 2001 ACM SIGPLAN-SIGSOFT Workshop on Program Analysis For Software Tools and Engineering (PASTE '01), pp. 54-61, 2001.	
		Hind et al., "Evaluating the Effectiveness of Pointer Alias Analyses", Science of Computer Programming, Vol. 39, No. 1, pp. 31-55, January 2001.	
		Horwitz, et al., "Interprocedural Slicing Using Dependence Graphs", ACM Trans. Program. Lang. Syst., Vol. 12, No. 1, pp. 26-60, January 1990.	
		Heintze, et al., "Ultra-Fast Aliasing Analysis Using CLA" A Million Lines of C Code in a Second", Proceedings of the 2001 ACM SIGPLAN Conference on Programming Language Design and Implementation, pp. 254-263, 2001.	
		Jones, et al., "Flow Analysis and Optimization of LISP-Like Structures", Conference Record of the Fourth ACM Symposium on Principles of Programming Languages, pp. 244-256, 1979.	
		Khedkar, et al., "A Generalised Theory of Bit Vector Data Flow Analysis", ACM Trans. Program. Lang. Syst., Vol. 16, No. 5, pp. 1472-1511, 1994.	
		Knoop, et al., "Efficient and Optimal Bit-Vector Dataflow Analysis: A Uniform Interprocedural Framework", Technical Report Bericht Nr. 9309, Institut für Informatik und Praktische Mathematik, Christian-Albrechts-Universität Kiel, Germany, 1993.	
		Liang, et al., "Reuse-Driven Interprocedural Slicing in the Presence of Pointers and Recursion", International Conference on Software Maintenance, 1999.	
		Landi, et al., "Interprocedural Modification Side Effect Analysis with Pointer Aliasing", Proceedings of the 1993 ACM SIGPLAN Conference on Programming Language Design and Implementation, pp. 56-67, 1993.	

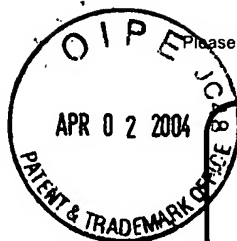
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		Application Number	10/662,942
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Filing Date	Sep 15, 2003
		First Named Inventor	Das
		Group Art Unit	2122
		Examiner Name	
		Attorney Docket Number	MS1-1734US
Sheet	4	of	4

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Milanova, et al., "Precise and Efficient Call Graph Construction for C Programs with Function Pointers", Journal of Automated Software Engineering, pages 12, 2004.	
		Nelson, et al., "Simplification by Cooperating Decision Procedures", TOPLAS: ACM Transactions on Programming Language and Systems, Vol. 1, No. 2, pp. 245-257, 1979.	
		Pande, et al., "Interprocedural Def-Use Associations for C Systems with Single Level Pointers", IEEE Transactions on Software Engineering, Vol. 20, No. 5, pp. 385-403, 1994.	
		Reps, et al., "Precise Interprocedural Data Flow Analysis via Graph Reachability", Conference Record on the Twenty-Second ACM Symposium on Principles of Programming Languages, 1995.	
		Shapiro, et al., "The Effects of the Precision of Pointer Analysis", LNCS 1302, 4th International Symposium on Static Analysis, September 1997.	
		Olin Shivers, "Control-Flow Analysis of Higher-Order Languages", PhD Thesis, Carnegie Mellon University, May 1991.	
		Sagiv, et al., "Parametric Shape Analysis via 3-Valued Logic", Conference Record of the Twenty-Sixth ACM Symposium on Principles of Programming Languages, 1999.	
		Bjarne Steensgaard, "Points-to Analysis in Almost Linear Time", Conference Record of the Twenty-Third ACM Symposium on Principles of Programming Languages, 1996.	
		Wilson, et al., "Efficient Context-Sensitive Pointer Analysis for C Programs", Proceedings of the ACM SIGPLAN 95 Conference on Programming Language Design and Implementation, 1995.	

Examiner Signature		Date Considered	
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